

CLAIMS:

1. A device (1) arranged for carrying-out a bioelectrical interaction with an individual, said device comprising:
- sensing means (6) comprising a plurality of electrodes (8,9) arranged to measure a first electrical signal (S) when brought into contact with an individual's skin;
 - 5 - testing means (18) arranged to deliver a second electrical signal (T) to a corresponding input of said electrodes (8,9), said electrodes being further arranged to generate a response signal (S') upon receipt of the second electrical signal;
 - control unit (5) arranged to analyze the first electrical signal and to actuate the testing means (18) upon an occurrence of a predetermined event (15) in the first electrical
 - 10 signal;
 - - lead-off detection means (14a) arranged to verify an integrity of the contact of said electrodes by analyzing the response signal (S') and detecting a parameter related to said integrity.
- 15 2. A device according to Claim 1, wherein the test means (24) comprises a signal generator (24a) arranged to generate the second electrical signal in substantially the same bandwidth as the first electrical signal.
3. A device according to Claim 2, wherein the test means (24) further comprises
- 20 a sequencer (24b) arranged to deliver a sequence of variable second electrical signals to each input of said electrodes (29,29a) in order to determine the integrity of the contact of each electrode within said plurality of electrodes.
4. A device according to any one of the preceding Claims, wherein the device
- 25 further comprises lead-off indication means (16), said lead-off indication means being actuable by the lead-off detection means (14a) upon a detection of said parameter.
5. A device according to any one of the preceding Claims, wherein said bioelectrical interaction comprises monitoring of a physiological condition of the individual.

6. A device according to any one of the preceding Claims, wherein said bioelectrical interaction comprises electro-stimulation of a body part of the individual.

5 7. A method for on-demand verification of the integrity of an electrical contact of an electrode to a body part of an individual, wherein said electrode is part of a device arranged to carry-out a bio-electrical interaction with the individual, said method comprising the following steps:

- 10 - measuring a first electrical signal by means of the electrode;
- analyzing the first electrical signal for occurrence of a predetermined event;
- generating a second electrical signal upon detection of the predetermined event;
- generating a response signal by applying the second electrical signal to an input of the electrode;
- 15 - analyzing the response signal for detecting a parameter related to said integrity.

8. A method according to Claim 7, wherein the second electrical signal is generated in substantially the same bandwidth as the first electrical signal.

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9. A method according to Claim 8, further comprising the steps of:
applying a sequence of variable second electrical signals to each input of said electrodes;
processing the resulting sequence of response signals in order to determine the integrity of the contact of each electrode within said plurality of electrodes.